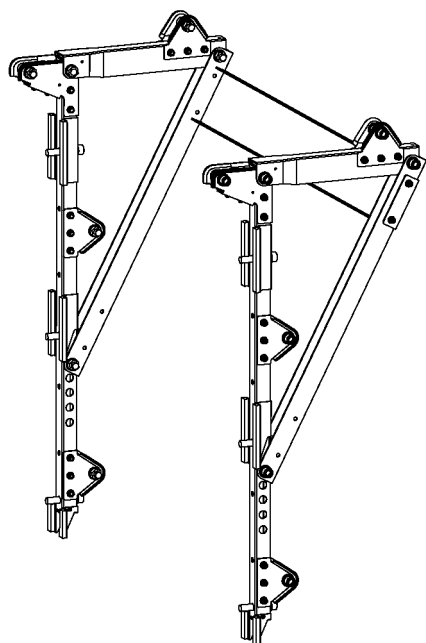


Service Manual

Ceiling-hanging bracket for Plasma Display

Model No. **TY-CE85PS12**
TY-CE85PS12C



WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

IMPORTANT SAFETY NOTICE

There are special components used in this equipment which are important for safety. These parts are marked by  in the Schematic Diagrams, Circuit Board Diagrams, Exploded Views and Replacement Parts List. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent shock, fire or other hazards. Do not modify the original design without permission of manufacturer.

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1 Warning

WARNING

Ensure that the installation location is strong enough to support long-term use.

- If its strength becomes insufficient over the course of long-term use, the display may topple over, possibly causing injury.

Installation and removal should only be carried out by a qualified technician.

- If the ceiling-hanging bracket is not installed correctly, the Plasma display may fall down and become damaged, and personal injury may result.

Make sure that all safety factors regarding strength of installation are observed.

- If the installation strength is insufficient, the display may fall down and personal injury may result.

Do not install in places which are unable to bear loads.

- If the strength of the installation surface is insufficient, the display may dropped and personal injury may result.

Do not disassemble or modify the ceiling-hanging bracket

- Otherwise the unit may be dropped and become damaged, and personal injury may result.

Take steps to prevent the ceiling-hanging bracket from falling

- Failure to carry out the installation completely may result in injury or even death.

CAUTION

Do not install in places which are subject to humidity, dust, oil fumes, water vapour or excessive heat.

- These can have adverse effects on plasma display operation, and fire or electric shocks may result.

Do not use any displays other than those given in the catalogue.

- Otherwise the unit may be dropped and become damaged, and personal injury may result.

Do not install the plasma display so that it is taller than it is wide.

- Otherwise the product may fall down and personal injury may result.

When installing or removing the plasma display, use a lowering device (machine), and ensure that the work is done by at least four persons.

- Otherwise the product may fall down and personal injury may result.

Do not swing from the plasma display or its ceiling-hanging bracket; do not suspend anything from the display or bracket.

- Otherwise the product may fall down and personal injury may result.

Leave a space of at least 10 cm (3.9") at the top, left and right, at least 10 cm (3.9") at the bottom, and at least 15 cm (5.9") at the rear.

- The plasma display unit has air blow and air suction holes on the bottom and rear. Covering these may result in a fire.

Dispose of the product when it is no longer going to be used.

- Otherwise, it may break and fall down, possibly causing injury.

When assembling and installing the ceiling-hanging bracket, make sure that the screws in all the locations are tightened up securely.

- Failure to do so may result in warping, deformation, or degradation of materials, and a loss of strength that may cause the equipment to fall over or break and cause injury.

Requests regarding handling

- 1) Exercise care when selecting the location for the display because it may discolor or deform due to light or heat if it is placed where it is exposed to direct sunlight, or near a heater.
- 2) For cleaning, wipe the display using a soft dry cloth (made of cotton or flannel). If the unit is extremely soiled, first wipe off soiling with a neutral detergent diluted in water, and then wipe with a dry cloth. Do not use cleaners such as benzene, thinner or furniture wax because they may cause paint peeling. (For information on cleaning the display unit, see the display unit's instruction manual. If using a chemically-treated cloth, follow the instructions supplied with the cloth.)
- 3) Do not affix adhesive tape or stickers to the product. Doing so may dirty the surface of the ceiling-hanging bracket. Do not allow long-term contact with rubber, vinyl products or the like. (Doing so will cause deterioration.)
- 4) The panel of the plasma display is made of glass. Do not apply a strong force to it or subject it to impact.

Points to note during installation

- This equipment is a ceiling unit to suspend the Plasma Display from a ceiling structure for viewing purposes. The ceiling unit must not be installed in any locations other than ceiling structures with sufficient strength.
- In order to ensure correct, problem-free operation of the Plasma Display, do not install the Display in any of the following places.
 - Near sprinklers or fire/smoke detectors.
 - Where there is a risk of exposure to vibration or impact.
 - Near high-voltage wires or dynamic power supplies.
 - Near sources of magnetism, heat, water vapor or soot.
 - Locations exposed to air blown from heating equipment.
 - Where droplets of condensation from an air conditioner or other unit may form.
- When installing this ceiling unit, use a fixing method appropriate to the type of ceiling.
- When installing the ceiling unit to a ceiling structure, use structural components appropriate to the material of the structure, and an installation method.
- Provide adequate ventilation so that the temperature around the display does not rise above 40 °C (104 °F). If there is insufficient movement of the air inside display, heat may build up inside the display, and fire may result.
- Spread a soft blanket or cloth over the floor so that the Plasma Display and floor will not be marked or scratched during the assembly and installation work.
- When screwing down the parts, ensure that the screws are neither insufficiently tightened nor over tightened.
- Take sufficient care to ensure safety around you when performing the assembly and installation work or while moving about during the course of the work.
- Do not use any components other than the packaged ones.
- Do not install the Plasma Display underneath ceiling lamps (spotlights, halogen lamps, etc.). Otherwise, the cabinet may be bent or damaged by high heat.

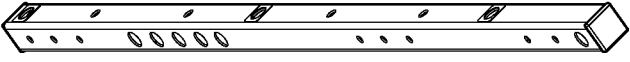
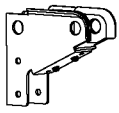
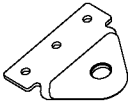
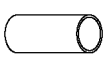
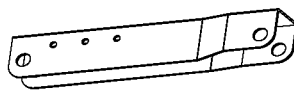
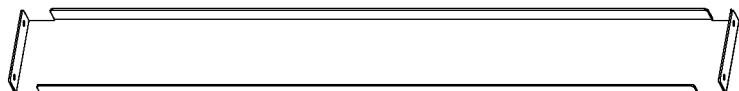
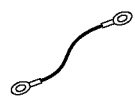
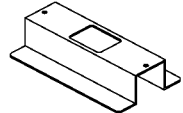
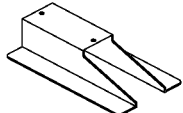
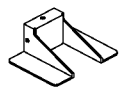
2 Specifications

Model Name	TY-CE85PS12 / TY-CE85PS12C
Type	Ceiling-hanging bracket for Plasma Display
Angle Adjustment	5 settings (No incline, 5°, 10°, 15°, 20°)
Dimensions	52 ¹³ / ₃₂ " (1331 mm) (W) x 22 ²⁷ / ₃₂ " (580 mm) (D) x 51 ⁷ / ₆₄ " (1298 mm) (H) *Maximum dimension at an angle of 0 degree.
Weight	77.2 lb (35 kg)
Dimensions with Packaging	54 ²⁹ / ₆₄ " (1383 mm) (W) x 8 ¹⁹ / ₃₂ " (218 mm) (D) x 10 ⁵¹ / ₆₄ " (274 mm) (H)
Weight with Packaging	88.2 lb (40 kg)
Material	Entire pressed part : Melted galvanizing steel board (SGHC) Square pipe (Supporting post): Rectangular steel tube for machine structural use. (STKMR)

3 Disassembly and Assembly Instructions

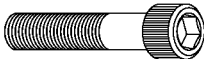
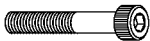
3.1. Constituent parts

■ Major components

(A) Column (L/R) One piece on each side  (With one cap)		
(B) Base 2  Do not loosen any screws already fixed to this component. (With insulating sheet)	(C) Plate 12  (With insulating sheet)	(D) Collar 14 
(E) Insulating collar: With flange (E-1) 8 	Insulating collar: Without flange (E-2) 8 	(F) Protective collar 8 
(G) Frame 2  Which is the left (L) column and which is the right (R), as well as the arrows showing which end of the columns is the top, are indicated on the labels.		(H) Stay 2 
(I) Joint 1 		
(J) Gasket (long) 8 	(K) Gasket (short) 4 	(L) Lead wire 8 
(M) Bracket 1 2 	(N) Bracket 2 2 	(O) Bracket 3 2 

The images shown in this manual are for illustrative purpose only.

■ Accessories

① M16 bolt (80 mm)20  Hexagon socket head cap screw M16-80		② M8 bolt (60 mm)22  Hexagon socket head cap screw M8-60	
③ M8 bolt (20 mm)4  Hexagon socket head cap screw with washer M8-20		④ Allen wrench (small)1  6 mm	⑤ Allen wrench (large)1  14 mm
⑥ Plain washer (large)34  M16	⑦ Spring washer (large)20  M16	⑧ Nut (large)14  M16	
⑨ Plain washer (small)22  M8	⑩ Spring washer (small)22  M8	⑪ Nut (small)26  M8	
⑫ Bracket mounting screws14 Lead wire mounting screws14 Total: 28  M15-12			

3.2. Prior to installation work

Never use any other method than specified to install.

1. Check the strength of the installation location.

The ceiling-hanging bracket weighs about 35 kg (77.2 lbs.).

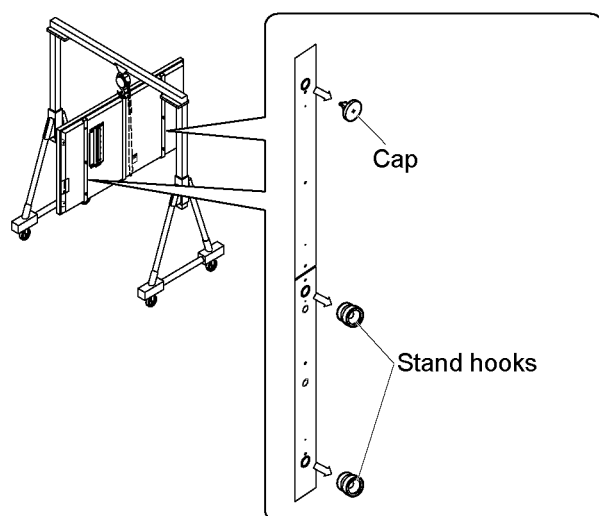
For the mass of the display to be installed on the ceiling unit, refer to the instruction manual for the Plasma Display.

Caution

- Before installing the ceiling unit, check the installation location of the ceiling for strength. If the installation location is not strong enough, reinforce the ceiling adequately.

※ Refer to "4. Dimensions" for the detailed dimensions that apply when installing the plasma display.

2. Prepare the Plasma Display



Caution

- Because the display is heavy, handle it carefully by the use of lifting equipment (machine).
- The display has the operation part on its right side face. Do not bump the operation part against any things located around, during installation.

1. Place the hook of lifting equipment in the display's center eyebolt, lift up the display, and put it on soft stuff such as a blanket. (The display should be kept in an upright position.)
2. Remove the two caps (at the top) from the rear panel of the plasma display.
3. Unscrew the stand hooks (in 2 places on each side) with the Allen wrench supplied with the plasma display.

※ Keep the caps, stand hooks, spring washers and Hexagon socket head button bolt which have been removed in a safe place.

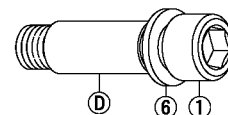
Caution

The ceiling unit includes some components common to the “left-side” and “right-side” subassemblies. During assembly, the bolt-inserting direction for one subassembly should be opposite to that for the other so that the nuts are located inside when the Plasma Display is installed.
(In this manual, the procedures of assembling the “right-side” subassembly when viewed from the front of the Plasma Display are shown in the figures below.)

Preparation of components

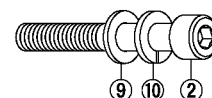
Preparation of M16 bolts (80 mm) ❶ (14 sets)

Install one plain washer ❸ and one collar ❹ in that order, on each M16 bolt (80 mm) ❶.



Preparation of M8 bolts (60 mm) ❷ (22 sets)

Install one spring washer ❿ and one plain washer ❾ in that order, on each M8 bolt (60 mm) ❷.

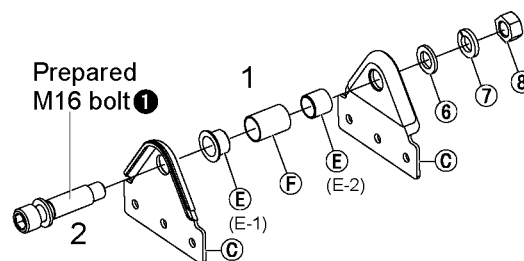


Preparation of plates ❸

As shown in the right figure, prepare 6 sets of plates ❸ and bolts.

1. Insert insulating collars ❺ into the protective collar ❻, and put them between plates ❸.
2. Pass the accessories over the prepared M16 bolt ❶ in the order shown in the figure, and secure them using the nut ❽.

- The bolt should be securely tightened to the torque given below. (16~20 N•m)

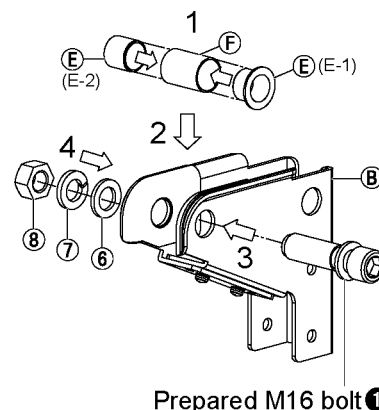


Preparation of base ❹

As shown in the right figure, prepare 2 sets of base ❹ and bolts.

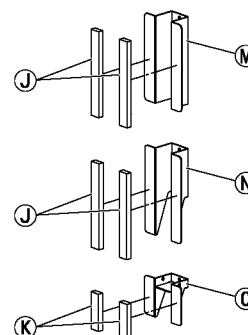
1. Insert insulating collars ❺ into the protective collar ❻.
2. Put the protective collar ❻ between the side plates of the base ❹.
3. While holding the collars, pass one prepared M16 bolt ❶ through.
4. Fit washers on the bolt, and fasten in place with the nut ❽.

- The bolt should be securely tightened to the torque given below. (16~20 N•m)



Preparation of the bracket 1 ❿, bracket 2 Ⓝ and bracket 3 Ⓚ

As shown in the figure on the right, adhere two gaskets to each of the brackets, and prepare each pair of brackets in this way.



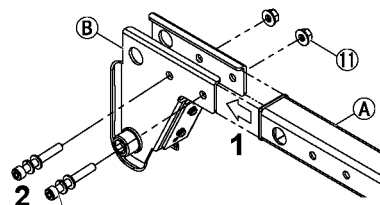
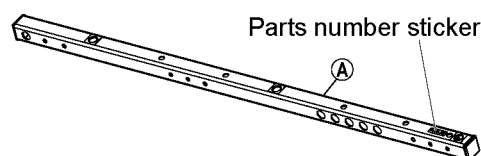
3.3. Assembly

1. Install the base ② on the column ①.

Install one prepared base ② on each column ①.

1. Insert the column ① between the side plates of the base ②.
(With the sticker displaying the parts number facing down, insert the column ① into the base ②.)
2. Fasten in place with two prepared M8 bolts (60 mm) ③ and nuts ④.

- The bolt should be securely tightened to the torque given below.
(7~10 N·m)



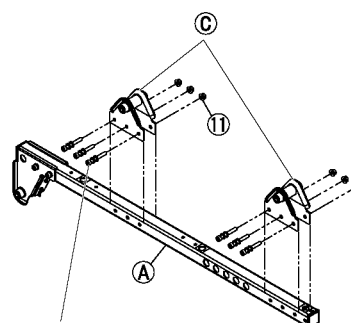
Prepared M8 bolt (60 mm) ③

2. Install plates ⑤ on the column ①.

Install prepared plates ⑤ on each column ①.

1. Secure the column ① to the prepared plates ⑤ using the prepared M8 bolts (60 mm) ③ and nuts ④.

- The bolt should be securely tightened to the torque given below.
(7~10 N·m)



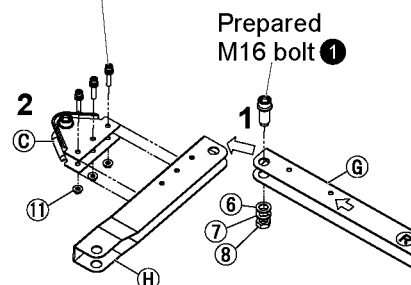
Prepared M8 bolt (60 mm) ③

3. Assemble the frame ⑥ and the stay ⑦.

1. Insert the frame ⑥ into stay ⑦, and secure it using the prepared M16 bolt ⑧ and the nut ⑨.
2. Secure the stay ⑦ to the prepared plates ⑤ using the prepared M8 bolts (60 mm) ③ and nuts ④.

- The bolt should be securely tightened to the torque given below.
(M16 bolt ⑧ 16~20 N·m
M8 bolt ③ 7~10 N·m)

Prepared M8 bolt (60 mm) ③

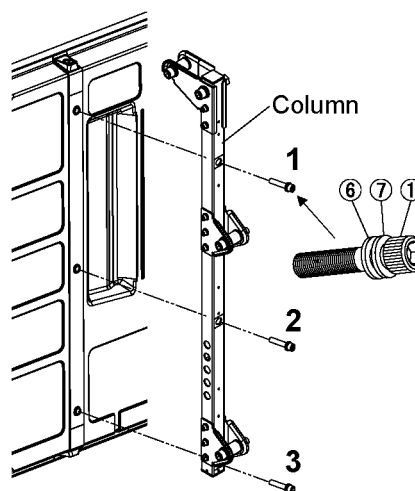


4. Install onto the Plasma Display.

Install each column assembled in the above step 2 onto the display.

1. Prepare six sets of one M16 bolt ⑧, one spring washer ⑩ and one plain washer ⑪, which should be assembled in the order shown in the right figure.
2. Place each column on the display, and temporarily fix it with prepared bolts from the top down.
3. Confirm that the each column has been properly seated on the display, and then tighten the bolts securely.

- The bolt should be securely tightened to the torque given below.
(16~20 N·m)



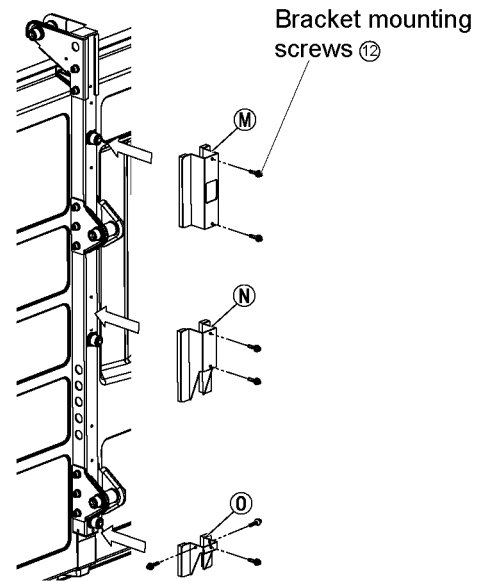
Plasma Display

5. Install the brackets.

Install the gaskets which were adhered at the bracket preparation stage so that they touch the plasma display.

1. Secure the bracket 1 (M) to the column using the bracket mounting screws (12).
2. Secure the bracket 2 (N) to the column using the bracket mounting screws (12).
3. Secure the bracket 3 (O) to the column using the bracket mounting screws (12).

- The screws should be securely tightened to the torque given below.
(2.2~3.0 N•m)



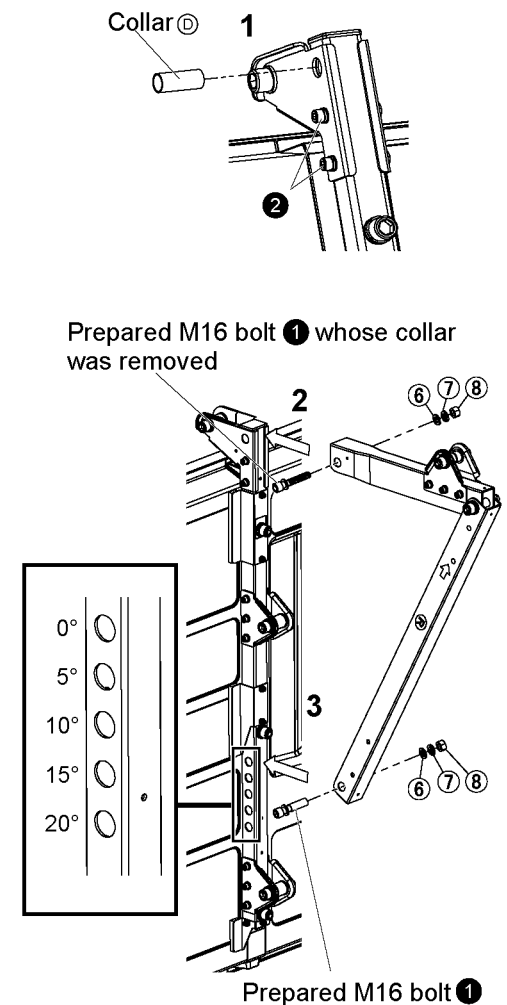
6. Install the frame.

Any of five settings can be selected for the angle at which the display is to be suspended: 0 degree (perpendicular), 5 degrees, 10 degrees, 15 degrees or 20 degrees.

Which assembly holes in the columns are to be used depends on the angle at which the display is to be installed.

1. Remove collar (D) of the prepared M16 bolts (1), and insert collar (D) into the frame mounting hole in the top part of the column.
✕ When the collar cannot be inserted into the frame mounting hole, loosen the M8 bolts (60 mm) (2) to adjust the hole.
2. Install the frame which was assembled in step 3 on the previous page onto the column, and secure it using the prepared M16 bolt (1) whose collar was removed and the nut (8).
3. Select the mounting hole for the desired angle, and secure it using the prepared M16 bolt (1) and the nut (8).

- The bolt should be securely tightened to the torque given below.
(16~20 N•m)



7. Attach the lead wires.

Secure the lead wires ① to the column and frame using the lead wire mounting screws ⑫.

※Point the flat surfaces of the lead wire terminals toward the ceiling-hanging bracket.

※Route the lead wires in such a way that they will not be too visible from the outside.

1. Secure the lead wire ① to the column ① and frame ⑥ using the lead wire mounting screws ⑫.

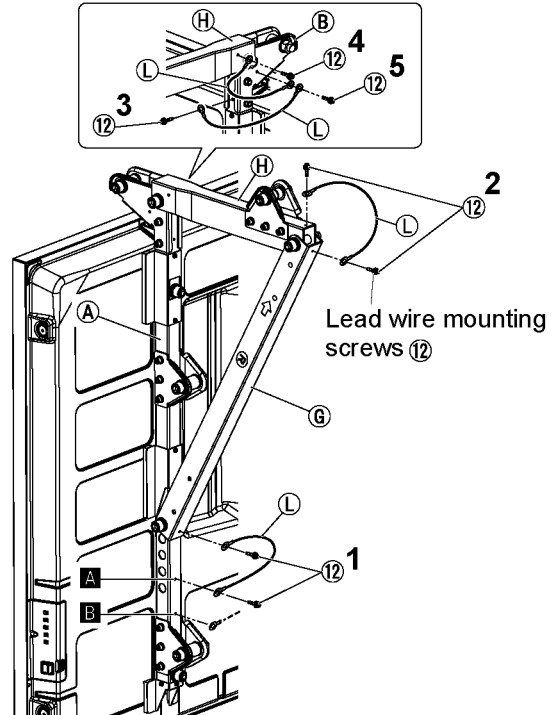
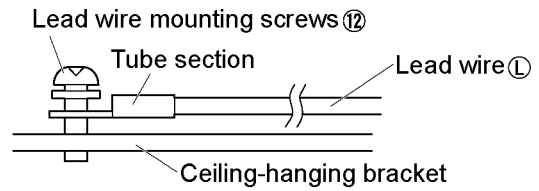
※Change the holes to be used in accordance with the angle which was selected in step 6-3.

■A : 0 degree, 5 degrees, 10 degrees

■B : 15 degrees, 20 degrees

2. Secure the lead wire ① to the frame ⑥ and stay ⑧ using the lead wire mounting screws ⑫.
3. Secure the lead wire ① to the column ① using the lead wire mounting screws ⑫.
4. Secure the lead wire ① to the stay ⑧ using the lead wire mounting screws ⑫.
5. Fasten the end of the lead wire ①, which was secured to the column ① and stay ⑧, to the base ② as well using the lead wire mounting screws ⑫ while ensuring that the tube section is not overlapped.

- The screws should be securely tightened to the torque given below.
(2.2~3.0 N•m)



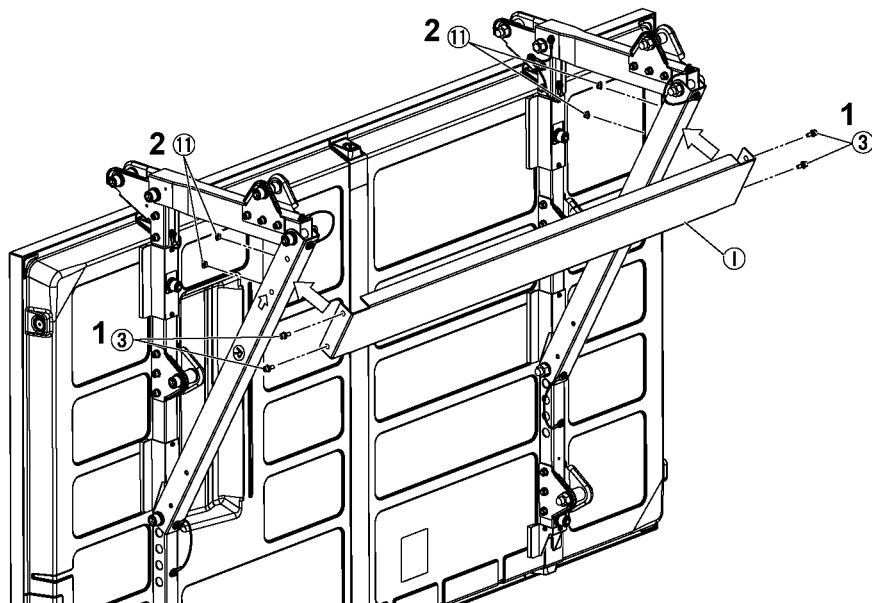
8. Install the joint

Install the joint ① onto the left and right frames.

1. As shown in the figure below, align the holes of the joint ① with those of each frame, and insert M8 bolts (20 mm) ③ from the outside.

2. Put the nuts ⑪ in from inside the frame, and fasten them with the M8 bolts (20 mm) ③.

- The bolt should be securely tightened to the torque given below.
(7~10 N•m)



3.4. On-site installation

- Installation work must be carried out only by a qualified technician.
- Be absolutely sure to install the ceiling-hanging bracket using at least four wire ropes so that it will be able to support the weight.

To ensure that persons in the immediate vicinity will not be struck in the event that the ceiling-hanging bracket slips out of position, use at least two wire ropes provided with some slack to prevent the bracket from falling down.

Besides, install a swing stop according to the circumstance.

※After the installation, remove the eyebolt.

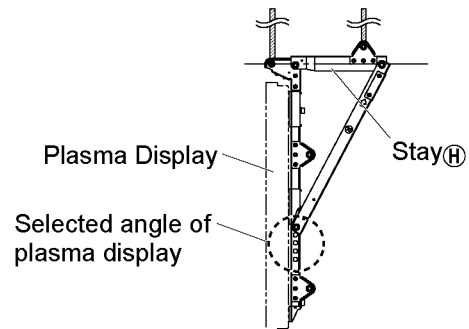
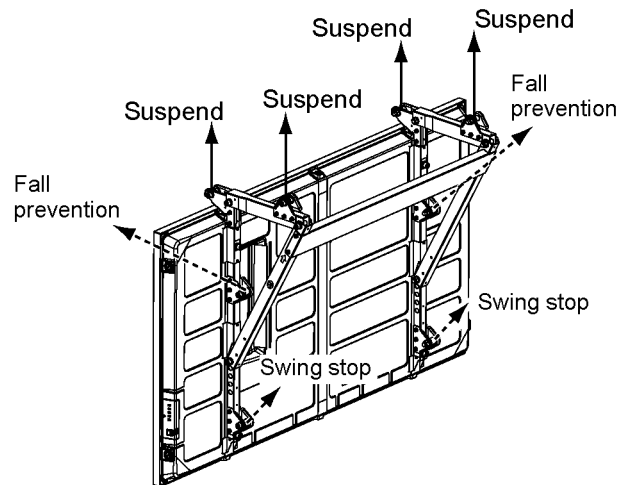
Remove the eye bolt and insert the eye bolt cap (provided with the plasma display).

Carefully store the removed eyebolt.

■ Adjusting the installation angle

With the plasma display suspended from the bracket, adjust the display so that the stay ⑧ is horizontal.

※ If the stay ⑧ is not horizontal, the plasma display will not be set at the angle which was selected in step 6-3.



Caution

- If using LAN cable to connect plasma display, connect the LAN cable so it is separated from other cables (this does not include the power cord).

3.5. Removing the display

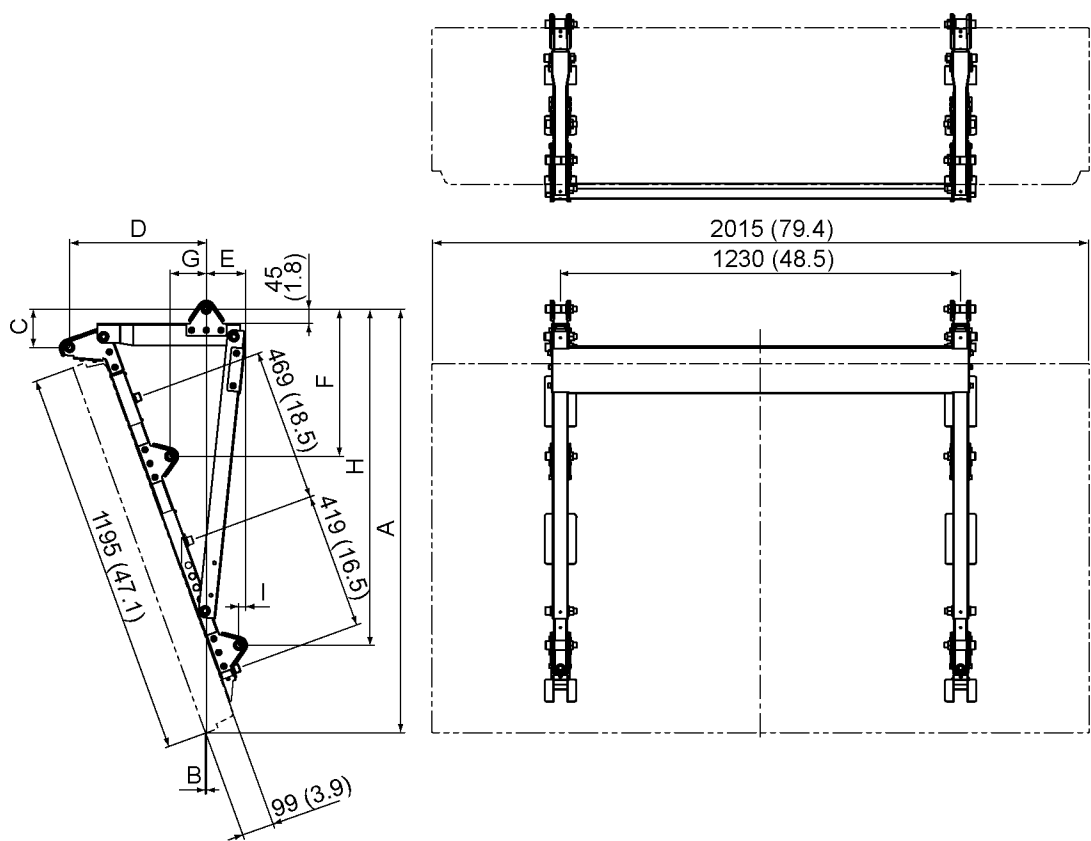
Reverse the installation procedure to remove the display.

Caution

- Because the display is heavy, handle it carefully by the use of lifting equipment (machine).

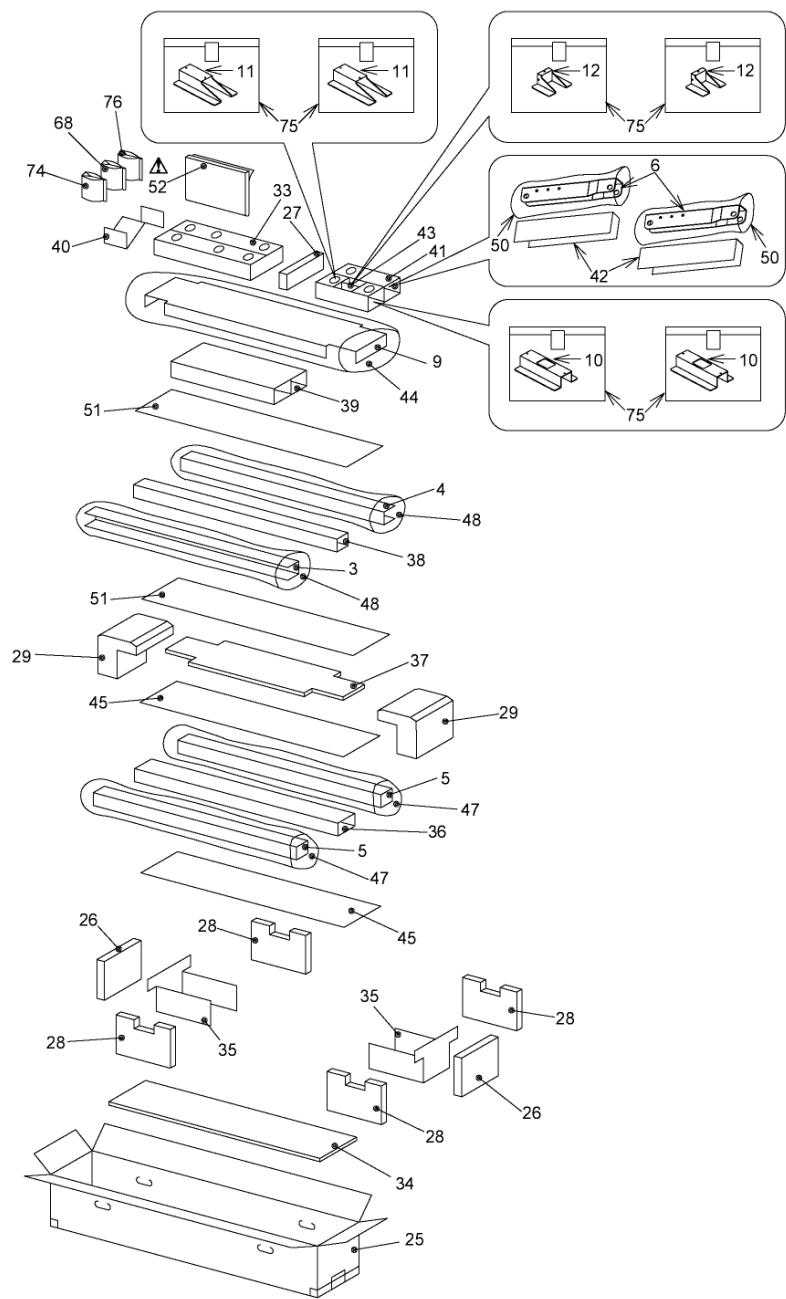
4 Dimensions

Units : mm (inches)



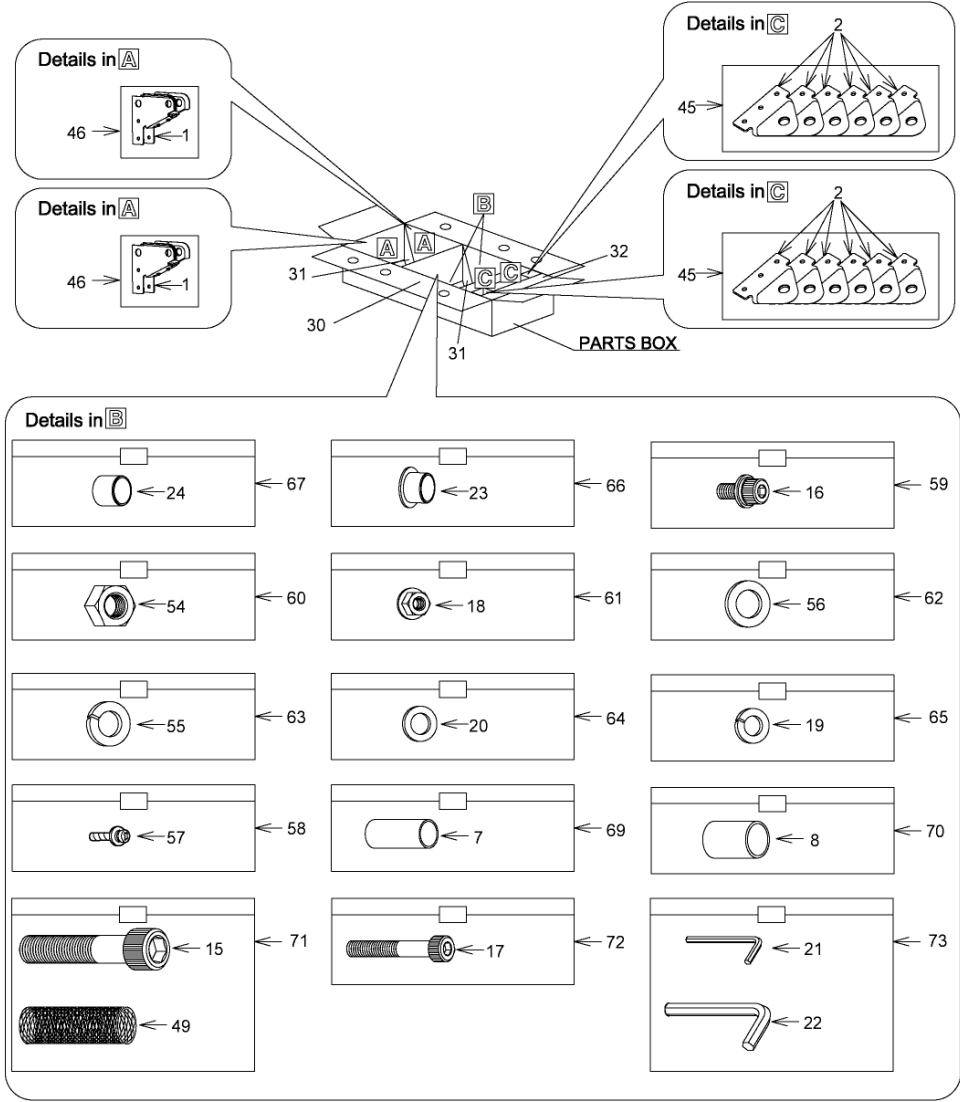
	0°	5°	10°	15°	20°
A	1338 (52.7)	1344 (53)	1340 (52.8)	1326 (52.2)	1303 (51.3)
B	438 (17.3)	329 (13)	219 (8.7)	110 (4.4)	2 (0.1)
C	80 (3.2)	90 (3.6)	100 (4.0)	109 (4.3)	118 (4.7)
D	425 (16.8)	425 (16.8)	425 (16.8)	423 (16.7)	421 (16.6)
E	124 (4.9)	124 (4.9)	123 (4.9)	122 (4.8)	121 (4.8)
F	500 (19.7)	493 (19.4)	483 (19.1)	469 (18.5)	453 (17.9)
G	250 (9.9)	215 (8.5)	179 (7.1)	145 (5.7)	112 (4.4)
H	1119 (44.1)	1109 (43.7)	1092 (43)	1067 (42)	1034 (40.1)
I	374 (14.8)	284 (11.2)	195 (7.7)	107 (4.3)	21 (0.9)

Model No. : TY-CE85PS12/TY-CE85PS12C Exploded View

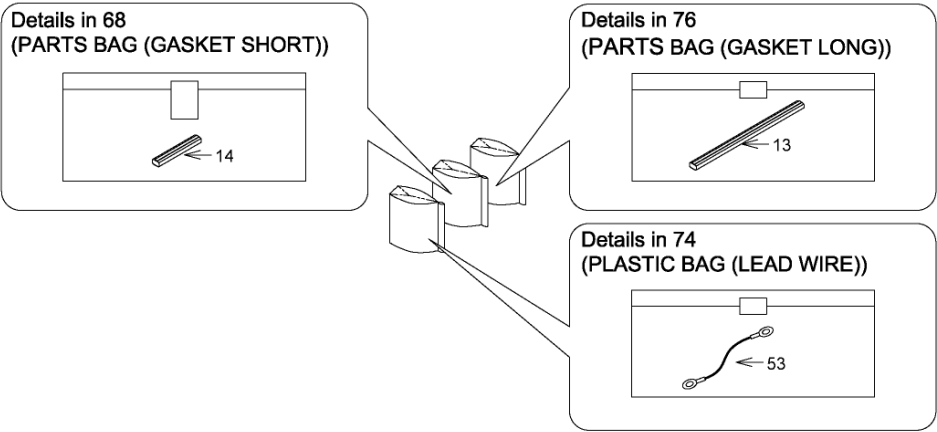


Model No. : TY-CE85PS12/TY-CE85PS12C Packing Summary (1)

Details in 33 (PARTS BOX)



Details in 68, 76 (PARTS BAG), 74 (PLASTIC BAG)



Model No. : TY-CE85PS12/TY-CE85PS12C Parts List

Safety	Ref. No.	Part No.	Part Name & Description	Q'ty	Remarks
	1	TBLA0353-1	BASE ASSY	2	
	2	TBLA0382	PLATE ASSY	12	
	3	TBLA0509	FRAME L ASS'Y	1	
	4	TBLA0510	FRAME R ASS'Y	1	TY-CE85PS12
	4	TBLA0511	FRAME R ASS'Y	1	TY-CE85PS12C
	5	TBLA0512	PROP ASS'Y	2	
	6	TBLA3637-1	STAY	2	
	7	TBLA3642	COLLARS	14	
	8	TBLA3669	PROTECTION COLLARS	8	
	9	TBLA3817	JOINT	1	
	10	TBLA3818	BRACKET 1	2	
	11	TBLA3819	BRACKET 2	2	
	12	TBLA3820	BRACKET 3	2	
	13	TEWB533	GASKET A (LONG)	8	
	14	TEWB534	GASKET B (SHORT)	4	
	15	THEA188J	HEX SOCKET HEAD CAP SCREW M16X80	20	
	16	THEA190J	HEX SOCKET HEAD CAP SCREW	4	
	17	THEA191J	HEX SOCKET HEAD CAP SCREW	22	
	18	THNA0079	NUTS (M8)	26	
	19	THWA011J	SPRING WASHER (M8)	22	
	20	THWC021J	WASHER (M8)	22	
	21	TKKX0016	HEXAGON WRENCH (SMALL)	1	
	22	TKKX0017	HEXAGON WRENCH (LARGE)	1	
	23	TMKY444	INSULATION COLLARS 1 (WITH FLANGE)	8	
	24	TMKY462	INSULATION COLLARS 2 (WITHOUT FLANGE)	8	
	25	TPCC72801	PACKING CASE	1	TY-CE85PS12
	25	TPCC72801A	PACKING CASE	1	TY-CE85PS12C
	26	TPDA1859	CUSHION (A)	2	
	27	TPDA1862	CUSHION (D)	1	
	28	TPDA2186	CUSHION (B)	4	
	29	TPDA2187	CUSHION (C)	2	
	30	TPDF2145	PAD (I)	1	
	31	TPDF2146	PAD (J)	2	
	32	TPDF2147	PAD (K)	1	
	33	TPDF2148	PARTS BOX	1	
	34	TPDF2428	PAD (A)	1	
	35	TPDF2429	PAD (B)	2	
	36	TPDF2430	PAD (C)	1	
	37	TPDF2431	PAD (D)	1	
	38	TPDF2432	PAD (E)	1	
	39	TPDF2433	PAD (F)	1	
	40	TPDF2434	PAD (G)	1	
	41	TPDF2445	PAD (H)	1	

Model No. : TY-CE85PS12/TY-CE85PS12C Parts List

Safety	Ref. No.	Part No.	Part Name & Description	Q'ty	Remarks
	42	TPDF2446	PAD (L)	2	
	43	TPDF2447	PAD (M)	1	
	44	TPEH296	SET COVER	1	
	45	TPEH383	MAT (A)	4	
	46	TPEH384	MAT (B)	2	
	47	TPEH386	PE BAG (A) (170X1600X0.07)	2	
	48	TPEH387	PE BAG (B) (170X1300X0.07)	2	
	49	TPEH400	PROTECTIVE SLEEVE	20	
	50	TPEH477	PE BAG (C) (170X600X0.07)	2	
	51	TPEH478	MAT (C)	2	
	52	TQZJ172	INSTRUCTION BOOK	1	TY-CE85PS12
	52	TQZJ188	INSTRUCTION BOOK	1	TY-CE85PS12C
	53	TXJ///1WCB	LEAD WIRE	8	
	54	XNH16EFJW4	HEXAGON NUTS (M16)	14	
	55	XWB16BFJ	SPRING WASHER (M16)	20	
	56	XWH16L32FJ	WASHER (M16)	34	
	57	XYN5+F12FJK	PANHEAD SCREW	28	
	58	XZB10X15C08	PLASTIC BAG (PANHEAD SCREW)	1	
	59	XZB10X15C08	PLASTIC BAG (SCREW M8X20)	1	
	60	XZB10X15C08	PLASTIC BAG (NUTS (M16))	1	
	61	XZB10X15C08	PLASTIC BAG (NUTS (M8))	1	
	62	XZB10X15C08	PLASTIC BAG (WASHER (M16))	1	
	63	XZB10X15C08	PLASTIC BAG (SPRING WASHER (M16))	1	
	64	XZB10X15C08	PLASTIC BAG (WASHER (M8))	1	
	65	XZB10X15C08	PLASTIC BAG (SPRING WASHER (M8))	1	
	66	XZB10X15C08	PLASTIC BAG (COLLARS/WITH FLANGE)	1	
	67	XZB10X15C08	PLASTIC BAG (COLLARS/WITHOUT FLANGE)	1	
	68	XZB14X15C06	PARTS BAG (GASKET SHORT)	1	
	69	XZB14X20C08	PLASTIC BAG (COLLARS)	1	
	70	XZB14X20C08	PLASTIC BAG (PROTECTION COLLARS)	1	
	71	XZB14X20C08	PLASTIC BAG (SCREW M16X80)	2	
	72	XZB14X20C08	PLASTIC BAG (SCREW M8X60)	1	
	73	XZB14X20C08	PLASTIC BAG (HEXAGON WRENCH)	1	
	74	XZB14X20C08	PLASTIC BAG (LEAD WIRE)	1	
	75	XZB14X29C08	PLASTIC BAG (BRACKET)	6	
	76	XZB14X29C08	PARTS BAG (GASKET LONG)	1	